

**Statement of Basis
Smurfit-Stone Container Enterprises Inc.
705-0014**

Smurfit-Stone has applied for a renewal of its Major Source Operating Permit 705-0014. This proposed Title V Major Source Operating Permit is issued under the provisions of ADEM Admin. Code R. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

I. Background:

Smurfit-Stone owns and operates a neutral sulfite semi-chemical (NSSC) pulp and paper manufacturing facility (SIC 2631) located in Stevenson, AL. The Stevenson, AL site is located in Jackson County, which is classified as a Class I county. The facility is located within a non-attainment area for PM fine.

The Stevenson Mill utilizes the NSSC pulping process for use in paper manufacturing. The Mill has the capacity to produce 3,000 tons per day of corrugating medium which is used in the manufacture of corrugated boxes, and is the inner flute between two outer liner boards in the corrugated box. Operations at the Mill include: wood storage and processing; NSSC pulping; a paper mill consisting of two paper machines; finishing; warehousing and shipping facilities; a wastewater treatment system; and a power plant that consists of two fuel oil-fired power boilers, two wood fired boilers, and a recovery boiler.

The Stevenson Mill has not made any major modifications to its pulping and papermaking process during the term of its current Title V Permit. The No. 2 Wood Fired Boiler's emissions limits for sulfur dioxide and sulfuric acid were revised through the PSD permitting process and BACT determinations. The facility is a major source with respect to Title V, PSD, and the MACT/NESHAP standards. The Mill is a major source operating facility for the following pollutants: TSP, PM₁₀, SO₂, NO_x, CO, VOCs, Total HAP's, and TRS.

II. Utilities:

Stevenson's utility area consists of a liquid recovery phase and a power and steam generation phase. The following units are the components of the Chemical Recovery System: Reductive-Oxidative Recovery Furnace, Smelt Dissolving Tank, and Chemical Conversion System. The following units are components of the power and steam generation system: No. 1 Power Boiler, No. 2 Power Boiler, No. 1 Wood Fired Boiler, No. 2 Wood Fired Boiler, and Recovery Furnace. The utilities provide support services, steam, and power for the facility.

A. No. 1 Power Boiler:

The No. 1 Power boiler is a 223 MMBtu/hr boiler that generates steam and is permitted to burn No. 6 fuel oil with a 4% maximum sulfur content.

1. Control Equipment:

Flue gas emissions from this boiler are controlled by a Combination Venturi-Spin Vane Absorber and Wet ESP – Advanced Membrane Up-flow WESP System. Sulfur in the flue gases from the power boiler resulting from combustion of the oil is reduced in the absorber section of the power boiler scrubber and is used as makeup chemical for pulp mill cooking liquor.

a. Emission Limits and Proposed Periodic Monitoring:

This unit is subject to Rule 335-3-4-0.3(1) for PM and subject to Rule 335-3-14-0.4 PSD BACT limit for sulfur dioxide. The No. 1 Power Boiler shares a stack and control equipment with the No. 2 Power Boiler. This boiler is not subject to NSPS because it has a heat capacity less than 250 MMBtus and it was constructed prior to 1976.

The No. 1 Power Boiler has the following limits:

Pollutant	Established Emission Limits
PM	≤ 0.13 lbs/MMBtu of heat input.
SO ₂	≤ 0.4 lb/MMBtu heat input (Maximum fuel oil sulfur content of 4% and at least 90% sulfur dioxide reduction) and/or ≤ 89.2 lbs/hr.
Opacity	≤ 20 % with one 6-minute period up to 40 % in any one hour period.

- Smurfit-Stone shall perform annual PM emissions tests.
- Smurfit-Stone shall also install a SO₂ CEM on this unit which measures these emissions in accordance with 40 CFR 60, Subpart Db, and this CEM's quality control assurance shall be in accordance with the requirements of Chapter 1 Part 60 Appendix F. Compliance with the SO₂ emission limit of this unit shall be determined by Reference Method 6 in Appendix A of 40 CFR Part 60.
- For PM periodic monitoring, Smurfit-Stone has elected to monitor and record the three-hour block average steam production rates, wet scrubber liquid flow rates, and three-hour rolling average WESP's total power.
- A PM emission test report is required once per year.
- A record of all three hour block average rates shall be made.
- Smurfit-Stone is required to submit a SO₂ continuous emission monitoring system audit report within thirty days of the end of each calendar quarter and an excess emissions report quarterly.

B. No. 2 Power Boiler:

The No. 2 Power boiler is a 223 MMBtu/hr boiler that generates steam and is permitted to burn No. 6 fuel oil with a 4% maximum sulfur content.

1. Control Equipment:

Flue gas emissions from this boiler are controlled by a Combination Venturi-Spin Vane Absorber and Wet ESP – Advanced Membrane Up-flow WESP System. Sulfur in the flue gases from the power boiler resulting from combustion of the oil is controlled in the absorber section of the power boiler scrubber and is used as makeup chemical for pulp mill cooking liquor.

a. Emission Limits and Proposed Periodic Monitoring:

This unit is subject to 40 CFR Part 60 Subpart Db and subject to PSD/BACT limits for sulfur dioxide, PM, opacity, and nitrogen oxides. Also, this unit is subject to Rule 335-3-14-0.4 for volatile organic compounds and carbon monoxide

The No. 2 Power Boiler has the following limits:

Pollutant	Established Emission Limits
PM	≤ 0.10 lbs/MMBtu and/or ≤ 22.3 lbs/hr
SO ₂	≤ 89.2 lbs/hr when only the No. 2 Power Boiler is operating. ≤ 178.4 lbs/hr when the No. 2 Power Boiler is operating in conjunction with the No. 1 Power Boiler. ≤ 0.40 lbs/MMBtu (3 hour rolling average) when either or both No. 1 & No. 2 Power Boiler are operating. ≤ 10 % of the potential SO ₂ emission rate (30-day rolling average) when either or both the No. 1 and No. 2 Power Boilers are operating
NO _x	≤ 0.40 lb/MMBtu (3-hour rolling average) and/or ≤ 89.2 lbs/hr.
Opacity	≤ 20 % except for one six minute period per hour of $\leq 27\%$
VOC	≤ 0.40 lbs/hr
CO	≤ 0.033 lbs/MMBtu and/or ≤ 7.4 lbs/hr.

- Smurfit-Stone shall perform annual PM emissions tests.
- Smurfit-Stone shall perform VOC and CO emissions tests at least once every five years.
- Smurfit-Stone shall also install NO_x and SO₂ CEMs on this unit which measure these emissions in accordance with 40 CFR 60, Subpart Db, and the CEM's quality control assurance shall be in accordance with the requirements of Chapter 1 Part 60 Appendix F. Compliance with the SO₂ emission limit of this unit shall be determined by Reference Method 6 in Appendix A of 40 CFR Part 60. Compliance with the pounds per million Btu heat input SO₂ emission limit shall be determined on a 3-hour rolling average in accordance with 40 CFR (7-1-92 Edition) Part 60, Appendix A, Method 19 when either or both the No. 1 and No. 2 Power Boilers are operating. Compliance with the SO₂ percent reduction emission limit shall be determined by Reference Method 19 in Appendix A of 40 CFR (7-1-92 Edition) Part 60, on a 30-day rolling average, when either or both the No. 1 and No. 2 Power Boilers are operating. Compliance with the NO_x limit shall be determined by Reference Method 7e in Appendix A of 40 CFR Part 60 Method 7e.
- For PM periodic monitoring, Smurfit-Stone has elected to monitor and record the three-hour block average steam production rates, wet scrubber liquid flow rates, and three-hour block average WESP's total power.
- For CO and VOC periodic monitoring, Smurfit-Stone has elected to monitor and record the three-hour block average furnace oxygen.
- A PM emission test report is required once per year.
- A VOC and CO emission test report is required at least once per five years.
- A record of all three hour block average rates shall be made.
- Smurfit-Stone is required to submit a NO_x and SO₂ continuous emission monitoring system audit report within thirty days of the end of each calendar quarter and an excess emissions report quarterly.

C. No. 1 Wood Fired Boiler:

The No. 1 Wood Fired Boiler is a 430 MMBtu/hr boiler that generates steam and is permitted to burn biomass (bark, wood, waste paper, secondary fiber processing rejects, and primary and secondary sludge from the mill's wastewater treatment plant), tire derived fuel, natural gas, and No. 2 fuel oil with a 0.2% maximum sulfur content.

1. Control Equipment:

Combustion of fuels in the No. 1 Wood Fired Boiler results in the production of various off-gases and vapors, heat, and ash particulate of various sizes. To control emissions of particulate matter, the boiler is equipped with mechanical dust collectors, a wet multiple-element variable throat venturi scrubber, and a polishing wet electrostatic precipitator.

a. Emission Limits and Proposed Periodic Monitoring:

This unit is subject to 40 CFR Part 60 Subpart Db and subject to PSD/BACT limits for sulfur dioxide, PM, opacity, and nitrogen oxides. Also, this unit is subject to Rule 335-3-14-0.4 for carbon monoxide. This unit is subject to 40 CFR Part 61 Subpart E for mercury.

The No. 1 Wood Fired Boiler has the following limits:

Pollutant	Established Emission Limits
PM	≤ 0.10 lbs/MMBtu heat input
SO ₂	The fuel oil sulfur content ≤ 0.2% by weight. ≤ 2,253,521 gal of fuel oil may be fired in any rolling 12 month period. < 40 tons/day of tire derived fuel may be fired.
NO _x	≤ 0.7 lbs/MMBtu heat input.
Opacity	≤ 20 % except for one six minute period per hour of ≤ 27%
Mercury	7.05 lbs/24 hour period
CO	≤ 0.6 lbs/MMBtu heat input.

- Smurfit-Stone shall perform annual PM emissions tests.
- Smurfit-Stone shall perform NO_x and CO emissions tests at least once every five years.
- For PM, SO₂, NO_x, and CO periodic monitoring, Smurfit-Stone has elected to monitor and record the three-hour block average steam production rates.
- For PM periodic monitoring, Smurfit-Stone has elected to monitor and record the three-hour block average wet scrubber liquid flow rates and three-hour block average WESP total power.
- For CO periodic monitoring, Smurfit-Stone has elected to monitor and record the three-hour block average furnace oxygen.
- For SO₂ periodic monitoring, fuel receipts shall be obtained.
- The natural gas and fuel oil heat inputs in MMBtus per calendar year shall be monitored.
- A continuous monitoring system for measuring the tons/day of tire derived fuel fed to the boiler shall be installed, calibrated, maintained, and operated.
- Mercury re-testing is only required if changes are made in the operation that would potentially increase emissions above the level determined by the most recent sludge test.
- A PM emission test report is required once per year.
- A NO_x and CO emission test report is required at least once per five years.
- A record of all three hour block average rates shall be made.
- All fuel oil receipts from the fuel oil supplier shall certify sulfur content and shall be obtained and maintained for at least five years.
- Reports shall be submitted to the Department every calendar quarter certifying the only very low sulfur oil was combusted in the boiler during the reporting period.
- Records of fuel oil usage in gallons per rolling 12-month period shall be made and maintained on file, available for inspection for a period of at least five years.
- Records of the amount of natural gas and fuel oil fired shall be made and the annual capacity factor calculated for each calendar year and maintained on file available for review for at least five years.

D. No. 2 Wood Fired Boiler:

The No. 2 Wood Fired Boiler is a 620 MMBtu/hr boiler that has the capability to generate 360,000 lb/hr steam and is permitted to burn biomass (bark, wood, waste paper, secondary fiber processing rejects, and primary and secondary sludge from the mill's wastewater treatment plant), tire derived fuel, NCGs, natural gas, and No. 2 fuel oil.

1. Control Equipment:

Combustion of fuels in the No. 2 Wood Fired Boiler results in the production of various off-gases and vapors, heat, and ash particulate of various sizes. To control emissions of particulate matter, the boiler is equipped with a multicyclone and a dry electrostatic precipitator.

a. Emission Limits and Proposed Periodic Monitoring:

This unit is subject to 40 CFR Part 60 Subpart Db and subject to PSD/BACT limits for sulfur dioxide, PM, and nitrogen oxides. Also, this unit is subject to Rule 335-3-14-0.4 for carbon monoxide, volatile organic compounds, sulfuric acid mist, and opacity. This unit is subject to 40 CFR Part 61 Subpart E for mercury.

The No. 2 Wood Fired Boiler has the following limits:

Pollutant	Established Emission Limits
PM	≤ of 0.03 lbs/MMBtu and/or ≤ 18.6 lbs/hr.
SO ₂	≤ 93.0 lbs/hr. Sulfur Dioxide emissions shall not exceed the emission limit in parts per million on a rolling 3 hour average as measured by a continuous emission monitor as calculated by the following equation:

	$E_{ppmdry} = 1/Q_s * 9,315,485$ <p>Where:</p> <p>Q_s Stack Gas Flow Rate (SDCF/Min) from Department Approved Stack Test</p> <p>E_{ppmdry} Emission Rate (ppm)</p> <p>Note: This limit may only be re-established with Departmental approval.</p>
NO _x	≤ 0.25 lbs/MMBtu and/or ≤ 155.0 lbs/hr. Pursuant to Code of Federal Regulations. Section 60.44b(c), the combined annual capacity factor for natural gas and fuel oil shall be 10% or less, where the annual capacity factor is defined as the ratio between the actual heat input to the unit from natural gas and fuel oil during a calendar year and the potential heat input to the unit had it been operated 8,760 hours at the maximum steady state design heat input.
Opacity	≤ 15 %
Mercury	≤ 7.05 lbs/24 hour period
CO	≤ 0.40 lbs/MMBtu and/or ≤ 248.0 lbs/hr.
VOC	≤ 0.03 lbs/MMBtu and/or ≤ 18.6 lbs/hr.
SAM	≤ 0.022 lbs/MMBtu and/or ≤ 13.6 lbs/hr.

- Smurfit-Stone shall perform annual PM and SAM emissions tests.
- Smurfit-Stone shall perform VOC, NO_x and CO emissions tests at least once every five years.
- For PM, SAM, VOC, NO_x, and CO periodic monitoring, Smurfit-Stone has elected to monitor and record the three-hour block average steam production rates.
- For PM and Opacity periodic monitoring, if the average of any ten consecutive six minute opacity averages exceeds 10%, the cause is to be investigated and appropriate actions are to be taken.
- For CO and VOC periodic monitoring, Smurfit-Stone has elected to monitor and record the three-hour block average furnace oxygen.
- The quantity and heat input of fossil fuels fired shall be monitored.
- Smurfit-Stone shall also install, operate, calibrate, and maintain an Opacity COMs on this unit which measures these emissions in accordance with 40 CFR 60, appendix B, Performance Specification 1.
- Smurfit-Stone shall also install, operate, calibrate, and maintain a SO₂ CEM on this unit which measures these emissions in accordance with 40 CFR 60, appendix B, Performance Specification 2 and this CEM quality control assurance for the SO₂ CEMs shall be in accordance with the requirements of Chapter 1 Part 60 Appendix F. Compliance with the SO₂ emission limit shall be determined by Reference Method 6 in Appendix A of 40 CFR 60 or by a continuous emissions monitor.
- Mercury re-testing is only required if changes are made in the operation that would potentially increase emissions above the level determined by the most recent sludge test.
- A PM and SAM emission test report is required once per year.
- A VOC, NO_x, SO₂, and CO emission test report is required at least once per five years.
- A record of all three hour block average rates shall be made.
- The number of gallons of No. 2 fuel oil fired on a 12-month rolling basis shall be obtained and maintained for at least five years.
- Six-minute average opacities will be continuously recorded.
- Records of all three-hour rolling average SO₂ emissions shall be recorded and maintained on file for at least five years.
- Records of the amount of natural gas and fuel oil fired shall be made and the annual capacity factor calculated for each calendar year and maintained on file available for review for at least five years.
- Smurfit-Stone is required to submit a SO₂ continuous emission monitoring system audit report within thirty days of the end of each calendar quarter and an excess emissions report quarterly.

III. Pulp Mill:

The pulp mill converts wood chips from the wood yard into papermaking fiber via the Neutral Sulfite Semi-chemical (NSSC) pulping process using chemicals (sodium sulfite and sodium carbonate), steam, and mechanical refining to produce pulp. Cooking liquor for the pulping process is received from the recovery system. The spent cooking chemicals from the pulping process are washed out of the pulp via a washing process and sent to the recovery system for recycling back into the pulping process. The pulp mill operation at the Stevenson Mill is comprised of several areas. The major processes include the No.1 and No. 2 NSSC digesters, NSSC Evaporator System, and No. 2 NSSC Brown Stock Washers. The Stevenson mill has three secondary fiber systems that utilize both pre-and post-consumer wastes.

A. Digesters:

The Mill's continuous digester system consists of two NSSC vertical digesters, supporting chip feeders, and blow systems. The peak production rate of NSSC pulp is 2,000 ODTP.

1. Control Equipment:

The digester system vent gases from the chip pre-steamers and the digester's blow and relief system are collected and oxidized in the Mill's wood fired boilers. The digesters and blow tanks form low volume high concentration gases (LVHC) which are also required to be collected and treated by 40 CFR Part 63 Subpart S. The Mill has elected to control these emissions by routing these gases to the wood fired boilers for incineration.

a. Emission Limits and Proposed Periodic Monitoring:

The NSSC digesters are subject to 40 CFR Part 63 Subpart S (MACT I). All gases discharged from NSSC Digesters that contain total reduced sulfur and HAPs gases are to be collected and incinerated as required by Subpart S. Subpart S also requires annual testing and monthly inspections of the HVLC and LVHC NCG system. For TRS periodic monitoring shall be performed at least once per day by mill personnel to determine if the gases are being incinerated as required and if the gases are not being incinerated, investigate and take corrective action within 24 hours. At least once per day, records of whether or not TRS gases are being incinerated shall be made and maintained on file available for inspection for a period of five years.

B. No. 2 Brown Stock Washing System:

The No. 2 Brown Stock Washer System is a closed vent system with no process vents. Filtrate tank gases will be collected and oxidized in the Mill's wood fired boilers. Thus, methanol emissions from these tanks are estimated to be minimal.

Pulp is pumped from the No. 2 digester system blow tank to the brown stock washer for removal of spent cooking liquors. Brown stock washers are filters that displace the spent cooking liquor with water. Filtrate from the brown stock washers is sent to the evaporator system to begin recovery of pulping chemicals. Washed pulp, the product from the brown stock washers, then goes to refiners.

1. Control Equipment:

40 CFR Part 63 Subpart S requires that these gases be controlled. These gases are routed to wood waste boilers for incineration, which is one of the listed control options in 40 CFR Part 63 Subpart S.

a. Emission Limits and Proposed Periodic Monitoring:

The brown stock washer system is subject to 40 CFR Part 63 Subpart S (MACT I). All HVLC gases discharged from the Brown Stock Washers are required to be incinerated in the wood waste boiler as required by Subpart S. Subpart S also requires annual testing and monthly inspections of the HVLC NCG system. For TRS, periodic monitoring shall be performed at least once per day by mill personnel to determine if the gases are being incinerated as required and if the gases are not being incinerated, investigate and take corrective action within 24 hours. At least once per day, records of whether or not TRS gases are being incinerated shall be made and maintained on file available for inspection for a period of five years.

C. Multiple-Effect NSSC Evaporator System:

Weak black liquor from the brown stock washers is sent to the evaporator system for concentrating prior to being burned in the chemical recovery system. This is accomplished using six evaporator effects, a concentrator, and a surface condenser. Modifications to the existing evaporator system occurred through 2004. The evaporator system has the capacity to handle approximately 1,700,000 pounds of black liquor solids per day and 70,850 pounds per hour.

Heavy black liquor from the concentrator is stored in liquor storage tank prior to being sent to the chemical recovery boiler. Black liquor can also be diverted from the second evaporator effect to the load-out tank and concentrator product tank for storage prior to further processing.

Dirty steam from the evaporator effects is condensed in the surface condenser and then collected in the hot-well. Condensate from the hot-well is then sent to the wastewater treatment system. Clean condensate from the concentrator and the first effect evaporator is collected in the steam condensate flash tank and then sent to clean condensate storage for use as boiler feed-water. Evaporator system vent gases are collected and oxidized in the Mill's wood fired boilers.

1. Control Equipment:

40 CFR Part 63 Subpart S requires that these gases be controlled. These gases are then routed to wood waste boilers for incineration, which is one of the listed control options in 40 CFR Part 63 Subpart S.

a. Emission Limits and Proposed Periodic Monitoring:

The NSSC Evaporators are subject to 40 CFR Part 63 Subpart S (MACT I). All gases discharged from the Multiple-Effect Evaporator are required to be incinerated in the wood waste boilers. All HVLC and LVHC gases are to be collected and incinerated as required by Subpart S. Subpart S also requires the annual testing and monthly inspections of the HVLC and LVHC NCG system. For TRS, periodic monitoring shall be performed at least once per day by mill personnel to determine if the gases are being incinerated as required and if the gases are not being incinerated, investigate and take corrective action within 24 hours. At least once per day, records of whether or not TRS gases are being incinerated shall be made and maintained on file available for inspection for a period of five years.

IV. Paper Machine Area

The paper machines convert the dilute slurry of fiber into paper. The machines accomplish this task by physical and thermal means. Machine operations employ chemical additives at different points in the process to impart desirable characteristics to the finished product.

A. Paper machines:

Once pulp from the pulp mill has been refined through the addition of various compounds to reach the desired physical properties, it is pumped to a centrifugal cleaner system. This system cleans and removes other contaminants, the good stock is transferred to a collection tank where it is transferred through a pressure screen to the head-box of the paper machine. The head-box controls the manner in which the stock passes onto the paper machine wire to form a uniform paper mat. The water removed from the stock flowing down the wire drains into a collecting silo for re-use. After the paper web is removed from the wire it passes through two press sections, then to the drying section of the paper machine which is heated by steam from the plant. After the dryer section, the sheet passes through the calendars which compress the paper to obtain the specified thickness and surface smoothness and is then wound on a reel drum.

1. Control Equipment:

VOC emissions are controlled by work practice of using only Mill water, non-direct contact condensates, or paper machine white water as sources of process water supply for the paper machine.

a. Emission Limits and Proposed Periodic Monitoring:

Since the paper machines have no specific limits, no periodic monitoring is necessary.

V. Chemical Recovery System

A. Recovery Furnace, Smelt Tank, & Chemical Conversion System:

The chemical recovery system includes a reductive-oxidative recovery furnace, smelt dissolving tank, and a chemical conversion system-all operating as a single unit. The recovery furnace burns spent concentrated black liquor to recover inorganic chemicals and to recover the heat value of the black liquor to generate process steam. The recovered inorganic material (smelt) consists primarily of sodium compounds. Low sulfur No. 2 fuel oil and natural gas are used as supplemental fuels. Use of fuel oil and natural gas are limited to a heat input of less than a 10 percent annual capacity factor.

The smelt dissolving tank continuously removes smelt from the bottom of the recovery furnace and is mixed with water to produce NSSC green liquor. The green liquor is clarified and sent to the chemical conversion system for further processing as are the smelt tank vent gases. Some of the green liquor is sent to the digester for use as trim liquor.

The chemical conversion system consists of multiple operations including precarbonation of the green liquor, H₂S stripping, CO₂ generation in the sulfitation section, H₂S conversion in the sulfur recovery unit, and SO₂ conversion in the flue gas scrubber (absorber). The first step in the regeneration of the cooking liquor is the direction of the liquor to the flue gas scrubber which absorbs SO₂ from the recovery furnace flue gases and the last step being water evaporation in the cooking liquor evaporator.

The overall chemical recovery system can operate under the following scenarios:

- 1) All of the chemical recovery equipment, including the recovery furnace, smelt dissolving tank, and chemical conversion system operate simultaneously;
- 2) The chemical conversion system can operate while the recovery furnace and smelt dissolving tank are shut down by processing green liquor from storage; and
- 3) The recovery furnace and smelt dissolving tank can be operating while the chemical conversion system is shut down by sending green liquor to storage.

All three components of the chemical recovery system exhaust to a common wet scrubber. Therefore, the "worst case" operating scenario that results in the highest emission rates for all pollutants is operating scenario No. 1, since all of the chemical recovery system equipment is operating simultaneously and exhausting to a common control device. Under operating scenario 2 and 3, only a portion of the chemical recovery system equipment is operating and exhausting to the common control device and therefore, the emission rates are inherently lower than operating scenario No. 1. Also, the Mill operated under scenario No. 1, 81.6 percent of the time during 2008 – 2009. Therefore, compliance with the applicable emission limits can be conservatively demonstrated on the basis of operating scenario No. 1. The only exception occurs during non-routine maintenance activities that are performed on the chemical conversion system under operating scenario No. 3 that could result in TRS short-term concentrations that exceed the TRS concentrations resulting from scenario No. 1. The Mill currently uses a CEMS to monitor and quantify TRS emissions associated with the maintenance activities and therefore, will be able to account for the occasional elevated TRS concentrations associated with scenario No. 3.

1. Control Equipment:

The Chemical Recovery System is equipped with both a dry and wet electrostatic precipitator (ESP) for particulate matter control. The black liquor solids firing rate, dry ESP total power, and wet ESP total power are monitored in order to ensure that the dry and wet ESP are operating properly. A continuous Emissions Monitoring System (CEMS) measures sulfur dioxide, TRS, CO emissions from the Chemical Recovery System. CO emissions are monitored as a surrogate for organic HAPS. A reading of the CEMS greater than the value established during the initial performance test required by 40 CFR 63, Subpart MM, that demonstrated compliance with the organic HAPS standard would be defined as an excursion.

a. Emission Limits and Proposed Periodic Monitoring:

This source is subject to the applicable requirements of ADEM Admin. Code R. 335-3-10-.02(2)(b) New Source Performance Standards Subpart Db for nitrogen oxide emissions when No. 2 Fuel Oil or natural gas is fired and 40 CFR 60 Subpart A, General Provisions, and this source is subject to PSD/BACT limits for sulfur dioxide, PM, VOC, SAM, TRS, and NO_x. Also, this unit is subject to Rule 335-3-4-0.1 for opacity. This unit is subject to 40 CFR Part 63 Subpart MM for HAPs.

The chemical recovery system has the following limits:

Pollutant	Established Emission Limits
PM	≤ 0.036 grains/SDCF @ 8% O ₂ and/or ≤ 43.8 lbs/hr
SO ₂	≤ 120 ppm at 8% O ₂ and/or ≤ 170.0 lbs/hr. The fuel oil sulfur content ≤ 0.5%
NO _x	≤ 200 ppm at 8% O ₂ and/or ≤ 203.6 lbs/hr. This unit's annual capacity factor for firing No. 2 fuel oil and natural gas ≤ 10%
CO	≤ 600 ppm at 8% O ₂ and/or ≤ 371.8 lbs/hr.
VOC	≤ 50 ppm at 8% O ₂ and/or ≤ 13.3 lbs/hr.
TRS	≤ 25 ppm at 8% O ₂ and/or ≤ 4.0 lbs/hr.
SAM	≤ 5 ppm at 8% O ₂ and/or ≤ 4.0 lbs/hr.
Opacity	≤ 20% with one 6-minute period up to 27% in any one hour period.
HAP	The concentration of gaseous organic HAP, as measured by total hydrocarbons reported as carbon, discharged to the atmosphere shall be ≤ 1.49 kg/Mg (2.97 lb/ton) of BLS fired; or shall be reduced by at least 90% prior to discharge of the gases to the atmosphere.

- Smurfit-Stone shall perform annual PM emissions tests.
- Smurfit-Stone shall perform VOC, NO_x and SAM emissions tests at least once every five years.
- For PM, SAM, VOC, NO_x, and CO periodic monitoring, Smurfit-Stone has elected to monitor and record the three-hour block average black liquor solids firing rates.
- For PM and Opacity periodic monitoring, if the average of any ten consecutive six minute opacity averages exceeds 10%, the cause is to be investigated and appropriate actions are to be taken.
- For PM periodic monitoring, Smurfit-Stone has elected to monitor and record the three-hour block average ESP total power and WESP total power.
- Smurfit-Stone shall also install, operate, calibrate, and maintain a TRS and SO₂ CEM on this unit, and this CEM quality control assurance for the SO₂ CEMs shall be in accordance with the requirements of Chapter 1 Part 60 Appendix F. Compliance with the SO₂ parts per million emission limit of this unit shall be determined by Reference Method 6 in Appendix A of 40 CFR Part 60 or by the continuous emission monitor. Compliance with the SO₂ pounds per hour emission limit of this unit shall be determined by Reference Method 6 in Appendix A of 40 CFR Part 60. Compliance with the TRS parts per million emission limit shall be determined in accordance with 40 CFR Part 60 Appendix A Method 16 or continuous emission monitor. Compliance with the TRS pounds per hour emission limit shall be determined in accordance with 40 CFR Part 60 Appendix A Method 16.
- For CO, VOC, and gaseous HAP periodic monitoring when firing black liquor, a continuous monitoring system to record carbon monoxide emission rates in parts per million at 8 percent oxygen shall be installed, calibrated, maintained, and operated. If any three-hour rolling average carbon monoxide emission rate is greater than the permit limit, corrective actions to reduce the carbon monoxide emission rate shall be taken within 24 hours. Compliance with the CO limit shall be determined by Reference Method 10 in Appendix A of 40 CFR Part 60 or by the continuous emission monitor.
- A PM emission test report is required once per year.
- A VOC, NO_x, and SAM emission test report is required at least once per five years.
- A record of all three hour block average rates shall be made.
- Smurfit-Stone is required to submit a TRS and SO₂, continuous emission monitoring system audit report within thirty days of the end of each calendar quarter and an excess emissions report quarterly.
- Smurfit-Stone shall comply with the recordkeeping requirements of 40 CFR 63.10 of Subpart A as shown in Table 1 of Subpart MM and the requirements specified in 40 CFR 63.866 and 63.867.

VICAM:

CAM applies to pollutant specific emission units that are subject to an emission limitation or standard where a control device is used to achieve compliance with an applicable emission limitation. The CAM rule requires facilities to monitor compliance indicators for emission units to provide reasonable assurance for compliance with regulatory emission limitations. The following units are subject to the CAM rule: No. 1 & 2 Power Boiler, No. 1 & 2 Wood Fired Boilers, and the Chemical Recovery System. The other units fall under one of the several exemptions as defined by 40 CFR 64.2(b).

The following are main exemptions that apply to one or more emission units operated by the mill:

- The requirements of Part 64 shall not apply to emission limitations or standards proposed by EPA after November 15, 1990, pursuant to section 111 or 112 of the Clean Air Act (40 CFR 64.2(b)(1)(i)); and
- The requirements of Part 64 shall not apply to emission limitations or standards for which a Part 70 or 71 permit specifies a continuous compliance determination method (40 CFR 64.2(b)(1)(vi)).

The first exemption applies to emission limitations for air pollutants from NSPS or NESHAP proposed after November 15, 1990. The Mill operates several emission units subject to 40 CFR Part 63 – Subpart S, and MM. The following are the units subject to these standards:

- No. 3 Recovery Furnace (HAP): Subject to 40 CFR Part 63 – Subpart MM;
- No. 1 & 2 NSSC Digester System (HAP): Subject to 40 CFR Part 63 – Subpart S;
- No. 2 Brown Stock Waster (HAP): Subject to 40 CFR Part 63 – Subpart S;
- Multiple Effect NSSC Evaporator (HAP): Subject to 40 CFR Part 63 – Subpart S;

As a result, these emission units must comply with the monitoring requirements prescribed in the applicable standard rather than the requirements of 40 CFR Part 64. The second exemption applies to emission limitations for which ADEM has already prescribed continuous monitoring requirements in the Mill's existing Title V Operating Permit to demonstrate compliance.

For the units that are subject to CAM: No. 1 & 2 Power Boiler, No. 1 & 2 Wood Fired Boilers, and the Chemical Recovery System, the Title V Permit currently requires continuous monitoring, which satisfies the CAM rule that requires facilities to monitor compliance indicators for emission units to provide reasonable assurance for compliance with regulatory emission limitations.

- No. 1 Power Boiler (PM) – continuous monitoring of wet scrubber liquid flow rate
- No. 2 Power Boiler (PM) – continuous monitoring of wet scrubber liquid flow rate and WESP total power
- No. 1 Wood Fired Boiler (PM) – continuous monitoring of wet scrubber liquid flow rate and WESP total power
- No. 2 Wood Fired Boiler (PM) – continuous opacity monitoring system coupled with an established opacity standard
- Chemical Recovery System (PM) – continuous monitoring of wet scrubber liquid flow rate and WESP total power
- No. 1 Power Boiler (SO₂) – SO₂ CEMS subject to Subpart Db and Part 60 Appendix F
- No. 2 Power Boiler (SO₂) – SO₂ CEMS subject to Subpart Db and Part 60 Appendix F
- Chemical Recovery System (SO₂) – SO₂ CEMS subject to Subpart Db and Part 60 Appendix F

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